

electrical wire holders can house the electrical wire inserted from a direction intersecting the direction in which the link members are lined up, and it is unnecessary to perform the task of passing the electrical wire in the direction in which the link members are lined up.

[0026] In the electrical wire guide according to another aspect, the electrical wire holders may be hook-shaped and made of rod-shaped members. With such a configuration, the link members can be reduced in weight.

[0027] The following describes an embodiment in detail with reference to FIGS. 1 to 13.

[0028] As shown in FIG. 1, an electrical wire guide G according to the present embodiment is provided between a vehicle body (the body of a vehicle) B and a sliding door D that is movable relative to the vehicle body B. The electrical wire guide G is configured to be bendable into a predetermined shape in response to the sliding door D being opened or closed. The end portions of the electrical wire guide G in the longitudinal direction are respectively fixed to fixing brackets F that are provided on the vehicle body B and the sliding door D. In the following description, in each of the constituent members, the direction toward the upper side when the electrical wire guide G is installed to the vehicle (the upward direction in FIG. 2) is defined as the upward direction, and the direction toward the lower side is defined as the downward direction.

[0029] The electrical wire guide G includes a plurality of link members 10 that are lined up along one direction and are coupled together so as to be rotatable relative to each other.

[0030] Each link member 10 is made of synthetic resin, and, as shown in FIG. 3, includes a coupling plate 11 that has an approximately oval plate shape that is elongated in the direction in which the link members 10 are lined up (the coupling direction). As shown in FIG. 4, the coupling plate 11 is provided with a step portion 12 in a central portion in the longitudinal direction so that one end portion of the coupling plate 11 in the longitudinal direction is located higher than the other end portion. In the following description, an approximately half portion on the upper side of the coupling plate 11 is referred to as “first coupling plate portion 11F”, and an approximately half portion on the lower side is referred to as “second coupling plate portion 11S”.

[0031] The coupling plate 11 of each link member 10 is provided with a through hole 13 that penetrates in a top-bottom direction (a direction intersecting the direction in which the link members 10 are lined up) and a lock protrusion 14 that can be locked to the through hole 13 (see FIG. 4).

[0032] As shown in FIG. 3, the through hole 13 is provided in a central portion, in the width direction (lateral direction), of the coupling plate 11 (the first coupling plate portion 11F). The through hole 13 is located closer to the end portion that is opposite the step portion 12, of the first coupling plate portion 11F. The through hole 13 is elongated in the width direction of the coupling plate 11, and its end portions in the lengthwise direction each have a circular arc shape.

[0033] As shown in FIG. 5, the lock protrusion 14 protrudes from the upper surface of a central portion, in the width direction, of the coupling plate 11 (the second coupling plate portion 11S). The lock protrusion 14, when seen as a whole, protrudes upward (in an intersecting direction)

from the coupling plate 11 in a cantilever-like shape, and is configured to be elastically deformable when passing through the through hole 13.

[0034] The lock protrusion 14 is located in a central portion, in the longitudinal direction, of the second coupling plate portion 11S (see FIG. 9). The lock protrusion 14, when seen as a whole, has the shape of a wall that is elongated in the width direction of the link members 10. The end surfaces of the lock protrusion 14 in the lateral direction (the left and right side surfaces in FIG. 9) are configured as receiving surfaces 15, with which angle limiters 19, which will be described later, can be brought into contact. The receiving surfaces 15 are configured as flat surfaces that stand upright at a right angle relative to the upper surface of the coupling plate 11. Out of the receiving surfaces 15, the surface on the side of step portion 12 is a first receiving surface 15F with which a first angle limiter 19F, which will be described later, can be brought into contact, and the surface on the side opposite the step portion 12 is a second receiving surface 15S with which a second angle limiter 19S, which will be described later, can be brought into contact.

[0035] As shown in FIG. 7, the lock protrusion 14 includes a pair of legs 16 that stand upright facing each other in the width direction. Each leg 16 has a cantilever-like shape whose upper end is a free end. Each leg 16 has a columnar shape with an approximately rectangular cross section. The pair of legs 16 are symmetrical in the width direction of the link members 10. The pair of legs 16 are configured to be elastically deformable toward the inside (in the directions in which they face each other).

[0036] A tip portion of each leg 16 is provided with a claw 17 that is locked to a peripheral portion around the through hole 13.

[0037] The claws 17 protrude outward from the legs 16. The lower surface of each claw 17 is configured as a lock surface 18 that is locked to the peripheral portion around the through hole 13 and that is approximately orthogonal to the top-bottom direction.

[0038] The link members 10 are provided with pairs of guides 23 that guide rotational operations of adjacent link members 10 relative to each other (see FIGS. 12 and 13). Each pair of guides 23 includes a first guide 23F that protrudes from the upper surface of the first coupling plate portion 11F and a second guide 23S that protrudes from the upper surface of the second coupling plate portion 11S.

[0039] As shown in FIG. 9, the first guide 23F is provided along an end edge, in the lengthwise direction, of the link member 10. The surface that faces the through hole 13 (hereinafter referred to as “inner surface 24”), of the first guide 23F is curved in the shape of a circular arc that is concentric with the through hole 13. The surface opposite the inner surface 24 (hereinafter referred to as “outer surface 25”), of the first guide 23F is curved in the shape of a circular arc along an end surface of the link member 10.

[0040] The second guide 23S protrudes from a central portion, in the width direction, of the link member 10 along the step portion 12. The width of the second guide 23S is slightly greater than the respective widths of the first guide 23F, the first angle limiter 19F, and the lock protrusion 14. The surface of the second guide 23S that is on the side of the second coupling plate portion 11S is configured as a curved surface 26 that is curved along the outer surface 25 of the first guide 23F.